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ABSTRACT

Students in a large state university were surveyed to determine their beliefs about penalty levels appropriate for persons found guilty of various acts of academic dishonesty. There were two samples: one was random, and the other consisted of students who were strongly believed to have cheated by copying answers on one or more multiple-choice tests the preceding academic quarter. (These latter subjects were identified by a powerful and thoroughly documented statistical procedure that evaluated the probability of observed answer correspondences.) It was hypothesized that the suspected cheaters would be more lenient generally, and this was borne out. However, differences for the most part were small in terms of practical effect. Only on questionnaire items concerning tests taken from a classroom contrary to an instructor's rule were suspected cheaters substantially more lenient. (Author)

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Abstract

Students in a large state university were surveyed to determine their beliefs about penalty levels appropriate for persons found guilty of various acts of academic dishonesty. There were two samples. One was random, and the other consisted of students who were strongly believed to have cheated by copying answers on one or more multiple-choice tests the preceding academic quarter. (These latter subjects were identified by a powerful and thoroughly documented statistical procedure which evaluates the probability of observed answer correspondences.) It was by hypothesized that the suspected cheaters would be more lenient generally, and this was borne out. However, differences, for the most part, were small interms of practical effect. Only on questionnaire items concerning tests taken from a classroom contrary to an instructor's rule were suspected cheaters substantially more lenient.

Academic Dishonesty as Viewed by a Random Sample of College Students and a Sample Identified as Cheaters

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Academic cheating in American Institutions of higher education has attracted public attention in recent years. The various service academy scandals and revelations of academic dishonesty on the part of well known politicians have made the public well aware of the phenomenon. Moreover, cheating is a widespread problem as evidenced by the fact that nearly every institution of higher education has established procedures for dealing with accused individuals. Even at the graduate level, there is evidence to suggest cheating by a substantial proportion of students (Zastrow, 1970).

Studies concerning cheating have been largely devoted to detection and prevention (*e.g.*, Saupe, 1960; Angoff, 1974; Houston, 1976a; Frary, Tideman and Watts, 1977) and to determining predisposing factors (*e.g.*, Jacobson, Berger and Millham, 1970; Vitro and Schoer, 1972; Tittle and Rowe, 1973; Millham, 1974; Houston and Ziff, 1976; Houston, 1976b). A review by Bushway and Nash (1977) covers earlier work in this latter category. However, none of this research reports, except in a peripheral manner, student beliefs about appropriateness of penalties for cheating.

Problem

Because of this deficiency, student administered honor systems or disciplinary committees staffed by school authorities lack an important basis for determining the appropriateness of penalties for cheating. This circumstance could lead to punishments varying greatly in stringency within a school if cases were handled by independent panels or juries. Also, it could lead to penalties at odds with prevailing student beliefs about the seriousness of certain forms of academic dishonesty. Either of these two outcomes could lead to civil court challenges to disciplinary actions. For example, if it could be shown that a high proportion of students did not consider dishonest an act for which a student had been found guilty, a court might enjoin imposition of a penalty.

Of course, it is a relatively simple matter to survey random samples of students to reveal their beliefs about penalties for cheating. However, there is an element of inadequacy in using this approach alone, namely, that a substantial proportion of cheaters in a general population may bias outcomes inappropriately. In the spirit of laws that exclude convicted felons from some aspects of the democratic process, authorities might wish to view opinions of students who cheat differently from those of students who do not.

Ideally, sampling should be from students who oppose cheating and live up to their convictions and from the remainder of the population. Unfortunately, self-reporting in this regard would seem to be the only practical approach to determining a student's category. This approach was judged inherently unsatisfactory for identifying dishonest behavior.

Instead, it was decided to survey a sample consisting of students who, for reasons to be explained, were very strongly believed to have cheated recently (by copying multiple-choice test answers) and a random sample. Such an approach permitted taking into account the beliefs of at least one category of cheaters distinct from the general population.

Method

Data were collected during the fall quarter from undergraduate students of a large, comprehensive state university. Two samples of 100 were drawn, the first randomly. The second was obtained by analyzing responses to 154 multiple-choice tests on file with the university's computerized test scoring and analyses service for the preceding (spring) academic quarter. The method of analysis involved computing for each test a response similarity index for every pair of examinees. This procedure has been extensively validated and documented (Frary, Tideman and Watts, 1977). It yielded over 200 pairs of examinees whose right *and* wrong response patterns were so similar that probabilities were less than .001 that the patterns occurred by chance in the absence of copying. About 20 of these students were identified as highly probable cheaters in multiple courses or on multiple tests within the same course. Pairs whose members had scores within one point of each other were discarded on the basis that either might have copied unbeknownst to the other. From the remaining pairs, the lower scorers were selected and local addresses were sought until a sample of 100 was formed. This fall quarter sample consisted predominantly of sophomores and juniors, who the preceding spring were

freshmen and sophomores in large enrollment courses using the university's machine test scoring service.

The basis for selecting the sample of suspected cheaters did not provide absolute assurance of guilt in every case. A pair may have had a high answer correspondence index purely by chance ($p < .001$), or the higher scorer in a suspect pair may actually have copied from the lower without that person's knowledge or cooperation. In spite of these possibilities, it seems safe to claim that the sample of suspected cheaters was highly representative of persons who did cheat on the examinations in question. One characteristic of the original pool of suspected cheaters which tends to support this conclusion was their dropout rate, which was very high compared with the rate for all freshmen and sophomores in the university. For the typical dropout suspected of cheating it is plausible to associate both cheating and later dropping out with some complex of academic and other problems.

A questionnaire was constructed which described 17 typical situations involving academic dishonesty. Some situations involved flagrant violations and others were considerably less conclusive. A variety of types of cheating were described including sets of circumstances which could be related to copying on multiple-choice tests. A number of situations included information that could be interpreted as providing at least partial justification for the acts. The actual wording of these descriptions is incorporated in Table 1. Responders were asked to rate each situation according to the penalty they would apply to a guilty first offender from the following scale:

1. Permanent dismissal from the university and a grade of F in the course.
2. Suspension for a period of at least one quarter and a grade of F in the course.
3. A grade of F in the course.
4. A grade of F on the test or assignment on which cheating occurred.
5. Probation - offense noted for reference in case of further violation.
6. No penalty.

It was hypothesized that the population represented by the sample of highly probable cheaters was generally more lenient and especially more so with respect to copying test answers and to situations in which there was some "excuse" to cheat.

The questionnaires were assigned visible code numbers and mailed to the two samples with a notation that responses would be held in confidence and that code numbers would be used only to follow-up on nonreturns. Subjects suspected of cheating were not so advised, nor was the existence of two samples mentioned. Initially, over 70 percent of both samples returned their questionnaires, and follow-ups increased this percentage to over 90 in both samples. The records of names of all subjects were destroyed at this point.

Ethical Considerations

Ironically, this research concerning an ethical issue raises questions of its own in this regard. In the case of each suspected cheater, there was the possibility, however unlikely, of complete innocence. Further, the

listing of the names in this sample placed the subjects in jeopardy without their permission or knowledge so long as it existed, because of the extremely remote possibility that its confidentiality might have been breached. Of course, very stringent security measures were taken to prevent this occurrence. On this condition, the research was approved by university authorities on the basis that the very slight jeopardy was far outweighed by the potential benefits.

Results

Table 1 gives the actual wording of each questionnaire item, the corresponding means of the responses for each of the two samples and the t value for the difference. Only items 13 and 14 generated t's with probabilities below .05. However, 14 of the 17 mean differences including those for items 13 and 14 indicated greater lenience on the part of the suspected cheaters. The probability of such an event in the absence of this predisposition is approximately .006. Table 1 provides no direct evidence of systematically greater leniency by suspected cheaters with respect to items involving answer copying (1, 3, 11, 12, 16, 17) or those providing an "excuse" (3, 10, 16, 17).

To determine which questionnaire items most definitively accounted for the apparent difference between the populations represented by the samples, a stepwise discriminant function analysis was performed. The DISCRIMINANT subprogram of the Statistical Package for the Social Sciences (Nie, *et al.*, 1975) was used with selection of variables to minimize Wilks' lambda and with prior probabilities proportional to sample size. Four variables were entered and none was deleted before the F level for

inclusion dropped below 1.0. These variables were items 2, 5, 14, and 17. Surprisingly, two of these, items 2 and 17, were ones for which the random sample was more lenient than the sample of suspected cheaters. The final F ratio was 2.98 with 4 and 177 degrees of freedom ($p = .021$). Only 68 percent of the subjects were correctly classified by the final discriminant function.

Because subgroups from either sample might have had idiosyncratic response patterns not discernable from the above analyses, a cluster analysis was performed. Responders were grouped according to similarity of their response patterns across the 17 items through use of Johnson's MAX procedure as available in the CLUSTER subprogram of the Statistical Analysis System (Barr, *et al.*, 1976). Over the entire range of iteration levels for which cluster formation seemed justified, there was no substantial preponderance of members of either sample within any cluster.

Discussion

The greater lenience shown by the sample of suspected cheaters in 14 of the 17 questionnaire items ($p = .006$) suggests that there is a real population difference with respect to the present sampling of situations involving cheating. However, the size of the observed mean differences suggests that this population difference is very small for most situations. Moreover, the discriminant function analysis reveals that the slightly greater leniency of the random sample on items 2 and 17 may be a significant factor in drawing population distinctions, though these differences, also, are probably of little practical importance.

One area of the questionnaire did yield fairly meaningful and statistically significant differences between the samples, namely, items 13, 14 and 15. All three of these items involved, directly or indirectly, breach of an instructor's test security, and in each case the suspected cheaters were more lenient. One interpretation may be that in most other items the questionable act itself brought immediate and certain benefit to the cheater. In contrast, those who study from examination questions taken against an instructor's wishes are not assured that these questions will be used again. This interpretation could lead to greater leniency. The response distributions to items 13, 14 and 15 unlike all others were bimodal for both samples, which suggests that some responders may have based judgments on the act itself and others on the consequences.

Regardless of the extent to which one may wish to place interpretations on the difference between the two samples, their similarity is more striking. Prevalence of persons who cheat in the general population would hardly seem possible to the extent necessary to yield the observed similarity of most pairs of item means. Nor could anything less than fairly conventional beliefs concerning the morality of cheating lead to the rather stringent penalty levels recommended by the sample of suspected cheaters on many items. This outcome is not surprising given the extensive findings in criminology literature to the effect that "respectable citizens" who commit crimes generally have broadly based prosocial attitudes but rationalize their own crimes on the basis of extenuating circumstances (Gibbons, 1977).

Respondents were most on agreement for the more extreme situations. Merging the samples, over 75 percent recommended no penalty for the student

who failed to report an apparent copier (item 11), and 95 percent chose between the top two penalties for stealing and selling an upcoming test (item 5). Certain acts which would not be considered honor system offenses at the university where the data were collected generated substantial sentiment for punishment. For example, 51 percent recommended probation or an actual penalty for lying to gain an instructor's sympathy (item 8). In contrast responders were more lenient than the honor system in question would be with respect to item 7 concerning plagiarism of references and "line of argument." Over 37 percent indicated "no penalty," possibly revealing some ignorance of the fact that such an act would be considered dishonest by most instructors.

Of course, the findings just reported are directly applicable only in the setting where the data were collected. Nevertheless, they suggest the need for and appropriate methodology for similar studies elsewhere. In this regard, it would be valuable to gain regional and national data on students' beliefs concerning penalties for cheating. Then schools could gage their positions both concerning appropriateness of penalties and also their need to educate students in this area.

Table 1 - Questionnaire Items and Penalty Level Statistics for Random Sample and Suspected Cheaters

Questionnaire Items	Mean Penalty Level[1] Random Sample N=92	Suspected Cheaters N=90	t	2-tailed p-level
On the spur-of-the-moment, John copies a number of answers from his neighbor's multiple-choice test answer sheet. John did not study for the test and does not know how good a student his neighbor is.	3.44	3.40	.39	.70
Mary retypes a term paper for which her sister received an A at another university. She makes minor changes to bring the discussion up-to-date.	3.58	3.49	.30	.76
Three students of above average ability study together extensively in preparation for an examination. During the course of the exam, they compare answers so that each will receive about the same score.	3.20	3.29	-.84	.40
Tom carries a "crib sheet" into an examination and consults it four times.	3.02	3.07	-.58	.56
Two students break into an office and steal a copy of an upcoming test. They convert the test into a specialized "study guide" which they sell for a substantial amount of money.	1.36	1.45	-1.06	.29
Because of a trip to attend a "big weekend" at a nearby university, Katie is unprepared for a Monday test. She feigns illness and asks to be excused, taking the test at a later time after an opportunity to study.	4.84	4.95	-1.04	.30
Jack reads a friend's term paper from another course and finds that the overall line of argument and the references are exactly what he needs for his own assignment. He completely rewrites the term paper in his own words but retains the main ideas.	4.76	4.80	-.44	.66
Sally did badly on a test, not from neglect, but simply because the course is very difficult for her. She goes to discuss the problem with the instructor and after a few tears claims that her poor performance was due to some pressing personal problems, which in fact do not exist.	5.20	5.32	-.89	.37
An instructor gives a "take-home" test with instructions that each student must do his own work. John and Jack share hints which give the key for working several of the more difficult problems.	4.32	4.38	-.66	.51
On the same "take-home" test a group of students of about equal ability, who always study together, work the problems jointly but introduce minor differences from one another so that they will not appear to have been copied.	3.55	3.61	-.74	.46
Joe, a capable student, notices during an examination that another student he does not know personally is attempting to copy from him. Joe attempts to conceal his answers but does not report the incident to any authority. (Indicate penalty action for Joe, not the copier.)	5.67	5.74	-.75	.45
Halfway through a test Martha notices that her friend, Sonia, is copying from her. She makes no attempt to conceal her answers and does not report Sonia's action to any authority. (Indicate penalty action for Martha, not Sonia.)	4.73	4.88	-1.14	.26
An instructor announces that all copies of the examination questions are to be turned in. John conceals his copy in a notebook for later delivery to his fraternity's test file.	3.76	4.10	-1.98	.05
Sam, a fraternity brother of John, uses the test John took to study for a test from the same instructor with full knowledge of how the test was obtained.	4.07	4.58	-2.71	.01
An instructor routinely takes up his examination questions and it is well known that his examinations consist largely of previously used questions. Five students make notes of segments of the test after which they reconstruct the test and sell copies.	3.03	3.32	-1.79	.08
While taking a test Emily becomes aware that most of the students in her vicinity are copying each others' answers. To avoid making a poor grade in comparison with the others, Emily confers with the student in the next seat on several questions.	3.51	3.58	-.76	.45
Professor X is widely known for unfair grading practices. Walter had received an F on a previous test for misspelling the name of the person most of the test questions concerned. On the next test Walter copies from a friend who is a straight A student, feeling that the result should average his grade to about the right level.	3.68	3.60	-.24	.81

[1] 1 = highest penalty
6 = lowest penalty

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